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ABSTRACT

This booklet contains two papers that won the 1998 Audiovisual Education Prize of the Japan Audio-Visual Education Association. "Nurturing the Ability To Live in an Advanced Information Network Society: Making the Most Effective Use of Networking" reports on a study of 7th grade students in Okazaki City (Japan). The focus was on an 8-month extracurricular activity, entitled "Our Hometown River," that had the following objectives: to cultivate an attitude leading to an interest in the students' hometown and encourage them to preserve it by researching the Oto River; to give an opportunity to think about environmental problems by researching the water quality and history of the Oto River; to enable students to learn various methods of research and how to collect information; and to cultivate the ability of versatile observation of the Oto River. "Multimedia and Lifelong Learning: See, Listen, Create, and Transmit Information" describes the Ueda City (Japan) Multimedia Information Center, including: background; an overview of the staff, facilities, aims, expenses, and financial resources; and management status of the Multimedia Gallery, Seminar Room, and Local Digital Archive. (MES)

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Educational Practices in an age of Information Innovation

—Audiovisual Education Prize Winning Papers in 1998—

Educational Practices in an age of Information Innovation

—Audiovisual Education Prize Winning Papers in 1998—

Japan Audiovisual Information Center
for International Service
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FOREWORD

The "Audiovisual Education Prize" was established in commemoration of the 30th anniversary of the founding of The Japan Audio-visual Education Association. This prize is given to excellent practical utilization of educational media, and has been awarded annually for the last 40 years since its inception. In 1998 JAVEA saw the establishment of three sections: Section I: Practical research utilizing educational media such as movies, video and television or radio broadcast programs, Section II: Practical research utilizing the latest educational media such as computers and multimedia, and, Section III: Management programs and local supporting activity of educational media facility.

In 1998 we selected one for "Audiovisual Education Prize" and eight for "Audiovisual Education Incentive Prize". Because of shortage of space, only the minimum data, materials and photographs related to the main part of two representative papers are translated. We hope you would be able to get a rough understanding of the contents through the following description.

March 2000
Keijiro Inai
President, Japan Audio-visual Education Association

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"Nurturing the Ability to Live in an Advanced Information Network Society: Making the Most Effective Use of Networking"
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Nurturing the Ability to Live in an Advanced Information Network Society: Making the Most Effective Use of Networking

——————Mikawa Junior High School, Okazaki City, Aichi Prefecture

1. Introduction (Reasons for the Set-up, Ideal Image of Students)

In recent years students are believed to live in an increasingly advanced information network society. New trends in the latest media are constantly appearing and network connections such as the Internet are rapidly developing. The ability to live in such a society is not only knowing how to utilize the latest media, but also posessing the knowledge about how to choose information from various sources and create the most of it. It is also necessary for students to gain the ability to discreminate pertinent information among the flood of information for escaping from being misled by erroneous and/or unnecessary information, and to disseminate the fruits of their research through their own initiative.

Thus we have set the ideal image of students as follows:

(a) being able to consider the characteristics of various media and make the most effective use of them for their learning.

(b) being able to decide upon their own theme in learning tasks, and direct their own research, and express themselves easily.

Accordingly, we aimed to nurture such desirable students by facilitating their ability to set up and solve learning problems, and to establish their life-long learning skills in this advanced information network society. Through this, the students would be prepared and apt to continue learning throughout their lives.

2. Hypothesis and Methods of Research

We get the essence of learning mainly from our direct experiences. And such direct experiences enhance our motivation for learning, which leads to the achievement of learning objectives. However, there are many learning contents in the curriculum which we can not directly experience for various reasons. In these cases, media such as video and computer have been utilized.

Computers and other latest media connected into one digital network can unify information from various sources in a "structureless" and interactive way. For this reason, we are now able to get various information even from outside of school, and immediately create learning materials that match students' interests. Furthermore, we can send out information to outside of school to express what we have learned. This helps students solve their learning problems, and obtain satisfaction and a feeling of accomplishment. "I did it!" and "I got it!" are outward expressions of these feelings, which lead them into the next step of fostering a new awareness of issues.

Period of Integrated Study*, utilizing a composite of all subject matters in applying oneself to any study, should be established as the key to individual students' problem-solving activities. Through Period of Integrated Study, the students are not expected to acquire knowledge of everything, but to be able to manipulate and organize what they do know. Especially in this advanced information network society, it is important to have the ability to solve problems under one's own initiative and to have a close connection with current, on-going society.

It was hypothesized that it would help students learn how to solve problems under their own initiative by having them establish their own theme in conducting problem-solving activities. Also, it was thought that direct experiences should be highly valued in Period of Integrated Study, and that constant use of the network should be a priority as well.

*Period of Integrated study: a recently introduced area into the elementary and

secondary curriculum, students-oriented learning through depicting topics, surveying and collecting data, and, organizing and presenting in many ways, products officially will start in 2002 academic year. (JAVEA comentary)

3. Plan of Research

A. Period of Integrated Study

Period of Integrated Study was introduced to students in order for them to work on their own theme and solve it under their own initiative. Under Integrated study we have persued the environmental study with science, social studies and extracurricular activities.

Characteristics of our approach to Period of Integrated Study were as follows:

(1) Emphasis on direct experiences

We valued direct experiences better than solely mediated ones in theme-making and research activities. Direct experiences at the beginning of the instructional unit must give students motivation to set up their own theme. During research activities, students are able to be afforded as many opportunities as possible to experience real-life situations and have hands-on experience, so as to promote their desire for continuing research activities.

(2) Record keeping

We have students keep records to document how they solve their problems, and to establish their individual opinions. The record should clearly show students' opinions and the materials they would use.

B. Utilization of Various Media (Preparation of Media Environment)

We aimed to allowe students to utilize the network and various other media. For that purpose, we equipped facilities for utilizing media and con-

nected our school computers with Okazaki City Educational Network, in order to receive, exchange, and transmit information (cf., Fig. 1).

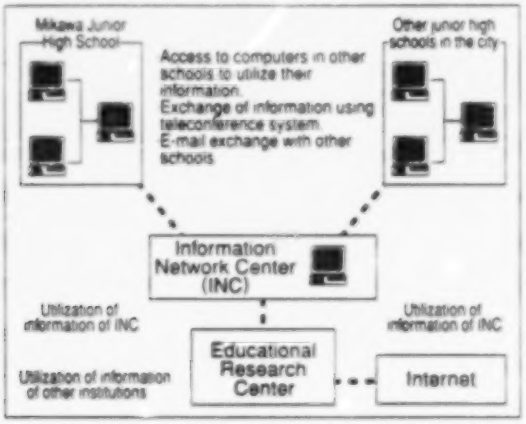

Mikawa Junior High School
Other junior high schools in the city
Access to computers in other schools to utilize their information.
Exchange of information using teleconference system.
E-mail exchange with other schools
Information Network Center (INC)
Utilization of information of INC
Utilization of information of INC
Utilization of information of other institutions
Educational Research Center
Internet

Figure 1. Network Environment

(1)·The phases of media usage

During the learning processes, we set multiple phases for uses of media so that students were exposed to various functions of media usage: Initially, teachers set an example of media usage when they introduced learning topics. Then students became aware of various types of investigative methods for learning individually, and this gave them motivation to study. Teachers also acted as a support mechanism to assist students in media usage in their own learning activities. Teachers ensured that media were used effectively to keep records of their activities, and that students' opinions and activities were understood and accepted by all members of group. In other words, students were given the experience to utilize the media as a communication tool.

(2) Media utilized (cf. Fig. 3 for network environment and media environment in classrooms)

(a) Various databases

Various databases were used in this study: (1) Students-made Database: Students' research activities were placed in a database in HTML format and utilized in other students' research activities, as well as in their presentations, and in information exchanges (cf., Fig. 2). (2) Database of the Educational Research Center: Teachers created a database to support students' research activities and to utilize the information of teachers from different schools. (3) Video-on-demand (VOD) system within Audiovisual Library: Teachers utilized the materials which the Audiovisual Library offered via the VOD system. (4) Internet: Although the Internet could be connected anytime, we prepared the downloaded information in advance deemed to be possibly refered to the learning contents. (5) Teachers-generated Database: In case of the database stated above could not provide enough information to students as they progressed in their study, teachers made additional information available in a separate database.

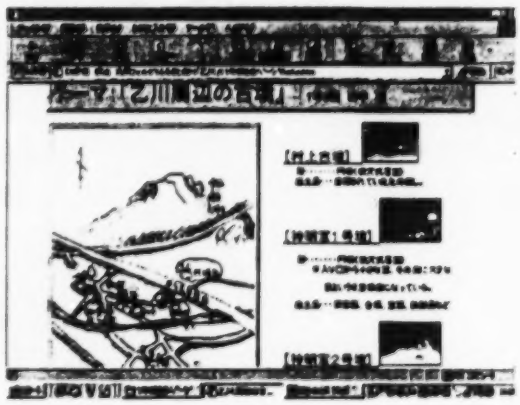


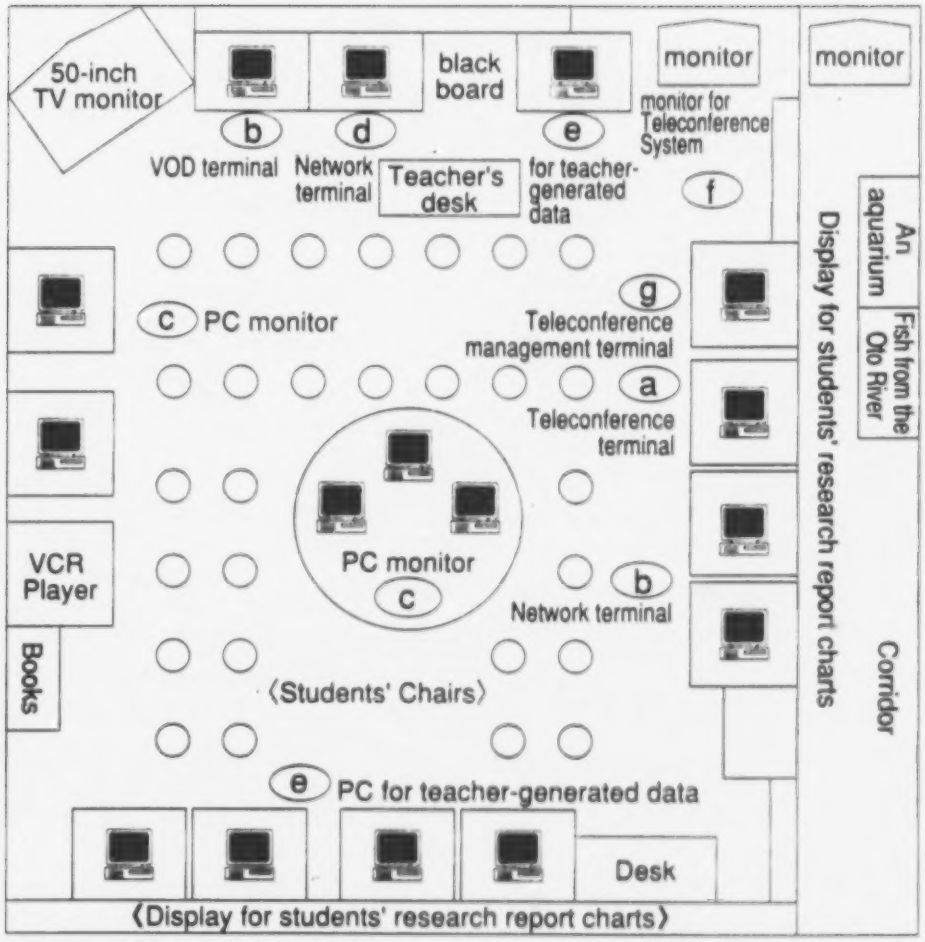
Figure 2. A sample screen
from Students' Database

(b) Teleconference System

Teleconference System enabled us to exchange pictures, sound and data such as graphic charts, using the digital network. With a large-sized monitor connected, other students who were not using the system could also observe the activity.

(c) Other media

It was difficult to provide enough information only by the media stated above. Therefore, books and videos were also furnished to enrich the source of information in the classroom (Fig. 3).



Roles of PCs and its information

(a) Teleconference terminal··· or exchange information with other schools
(b) Network terminal··· for viewing data from the Educational Research Center and that from students of this and other schools, and other sources such as the Internet, etc.
(c) PC monitors··· for viewing data from the Educational Research Center and that from students of this and other schools
(d) VOD terminal··· for viewing audiovisual library materials and database
(e) PC for teacher-generated data··· for viewing data generated by teachers of this school
(f) Teleconference monitors
(g) Teleconference management terminal

Figure 3. Media Environment in the Classroom

4 . Details of Research (Instructional Activities)

According to the plan stated above, lessons were conducted for 8 months, from July to February, using various media and direct experiences in the classes of science, social studies and extracurricular activities, as follows. By using the educational network of Okazaki City, we carried out a joint study with other junior high schools in our city, where also the similar environmental study was carried out.

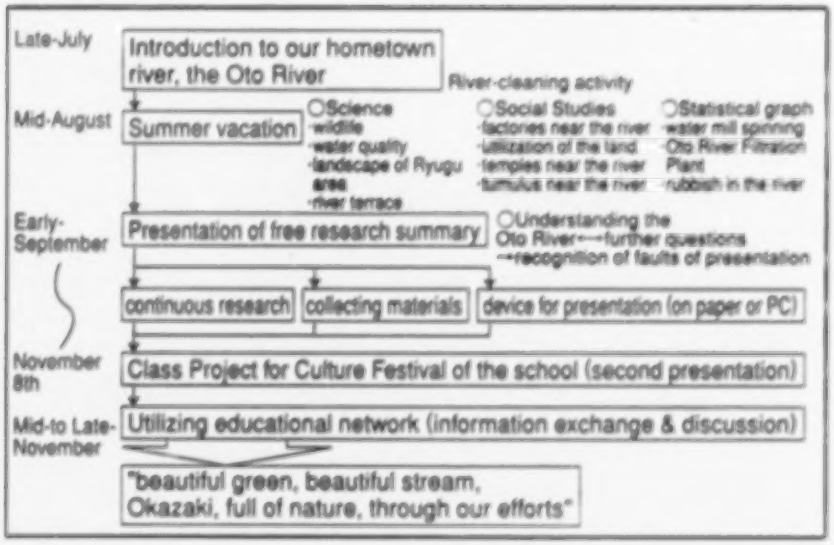
A. Grade, Subject Matter, Name of Instructional Unit

(1) Grade: 7th grade students
(2) Subject Matter: Extracurricular Activity
(3) Name of Instructional Unit: "Our Hometown River"

B. Objectives

(1) To cultivate an attitude leading to an interest in the students' hometown and encourage them to preserve it by researching the river (Oto River) which flows through their school district.
(2) To give an opportunity to think about environmental problems by researching the water quality and history of the Oto River.
(3) To enable students to learn various methods of research and how to collect information in the process of researching the Oto River.
(4) To cultivate the ability of versatile observation of Oto River, Through Period of Integrated Study.

C. Progress of Activities



D. Course of Research

(1) Mid-July "Clean-up Project in the Oto River"

Under the leadership of the student council, all the students participated in the cleaning activity at the Oto River, which was named "Clean-up Project in the Oto River" (Photo 1). Not only did students learn the importance of cleaning rivers, but they also got various ideas and formed opinions by watching the Oto River very closely, which they seldom had chances to do. After the project, some students wrote as follows in their daily memo:

Photo 1. Cleaning activity at the Oto River
"Clean-up project in the Oto River"

(a) The river looked clean when we saw it from the bank, but we found bubbles and much rubbish where water flows in.

(b) The river was unexpectedly clean and we were surprised to find fish in it and grass and insects on the bank.

(c) It is quite far to the river and we could see rice fields and factories between bank and the river. At Ohhira Bridge we found a stone monument telling us the river's history.

(2) Summer vacation "Free research during the summer vacation"

Since students have become more interested in the Oto River, we decided ask the students to research the Oto River individually as free research during the summer vacation. We planned to present the results of the research at the cultural festival which was to be held in the second term. (cf. C. "Progress of Activity" for the themes of free research)

(3) Early-September "Presentation of the free research"

Students presented the results of their research. Some of their opinions were as below:

(a) What a pity that I failed to report exactly what I wanted to say after putting so much effort into it.

(b) I thought I did enough research, but I found friends did even better. I got more confused as to what to research next.

(4) Mid-September to Late-October "Further research, collecting materials, device for presentation"

To solve further questions that students had after the presentation, they started to collect materials and continued their research. In the process of the continuous research, we also decided to let them utilize personal computers as a means with which to be able to rewrite and add information anytime. PC's also allowed anybody to read other students' information anytime they desired.

(5) Early-November "Presentation at the cultural festival"

The students presented the results of their indivídual continuous research as a part of classroom contribution at the cultural festival. It was entitled, "This is our river, the Oto River." Some students had the following impressions after the presentation:

(a) About the means of presentation

i) Contents of the reports were improved with more drawings and maps, even in case of being dream on paper, because it was easy to see.

ii) The presentations using personal computers were popular, as they were easy to see and people could see only what they were interested in. But there was too much information, so it was difficult to see it all.

(b) About the contents

i) We can not say if the Oto River is relatively clean or not, until we compare it with others.

ii) It is said that there are many orchards along the Oto River, but it is not clearly stated concerning other areas.

(6) Mid-November "Collecting information on other rivers"

As they received an opinion that there should be a comparison between the Oto River and other rivers, the students decided to research the Yahagi River, the mainstream of the Oto River, and other rivers in Japan. Information about the Yahagi River and other rivers in Japan was collected by using the educational network.

(7) November 26th "Information exchange with Yahagi Junior High School" (classroom open to the observers)

After collecting information about the Yahagi River and other rivers in Japan using the educational network, we changed focus onto comparing the Oto River with other rivers. The aim being made clear, students started to compare and discuss the Oto and Yahagi Rivers, utilizing the educational network individually. (cf. Class proceeded as follows)

(a) Plan of the observation day

Extracurricular activity "Let's take a careful look at our hometown river once again."

i) Introduction: The theme was made clear as "Comparing and discussing our information with other rivers' data"

ii) Development: Individual research on our hometown river

a) Students researched another school's local river and compared it with theirs (utilizing their information).

b) Students asked questions and exchanged opinions on the results of their research (teleconference system).

c) Students utilized information from the Educational Research Center (Educational Research Center's database).

d) Students compared their research result with that of others all over Japan to confirm their results (utilizing information from public institutions through the Internet).

e) Students reconsidered the results of their research on the river in their home town (using individual personal computers).

iii) Summarizing: Discussion on how they should come into contact with the Oto River as members of the "Club for the Beautiful Oto River"

(b) Students impressions after the observation day

i) Some students utilized the visual database from the Audiovisual Library.

There was a student who searched the database for "Yahagi River riverbed ruins" and found information on an item of unglazed earthenware (Photo 2).

The student said the following:

I was surprised to know that the river bank of Ryugu area in Oto River is formed with rocks while the bank of the Yahagi River is formed with sand only. It was interesting to find that there are ruins not only in the area of Ryugu but also of the Yahagi River. It was easy to see and understand, because the database was the same as the video, but it took time.

Photo 2. Searching visual database as a whole

ii) Other students utilized the teleconference system.

They exchanged information with students of Yahagi Junior High school on flood damage, microbes, rubbish and water quality. Although it was difficult to hold discussions smoothly as there were many participants, they could ask questions comparing their research with partner school students (Photo 3).

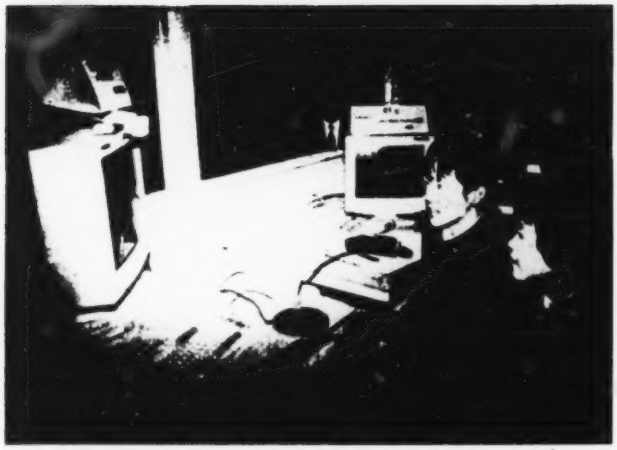


Photo 3. Students utilizing the Teleconference System

A student in this group said the following:

We measured the clarity of the water in the Oto River with a measuring instrument available on the market and with one we made ourselves "Super Sinker II". I am also happy to know that a student of Yahagi Junior High School also measured the clarity of the water. The presentation of the partner student was well-done with drawings and figures. Anyway, I am happy to know that someone is doing the same research as I did. However, I felt awkward at being called upon during the teleconference.

Another student in this group said the following:

We all had the same answers on microbes, but I think it was good to have an opportunity to hold a conversation facing each other through the computer screen.

iii) Other students in the class who utilized the database from the Educational Research Center said:

I searched the condition of pollution of rivers in Japan, and found out that the Oto River and Yahagi River are unexpectedly clean. But reading the data was difficult.

It was interesting to see the condition of pollution caused by drain-

age from houses, but some information was the same as I received from our teacher. I need more time as there is so much data.

iv) Students who utilized the database of Yahagi Junior High School and Mikawa Junior High School made these comments:

The data of Yahagi Junior High provided us with useful information, as it had many photographs and figures. The information on factories around the Yahagi River area was interesting, because I researched the factories in the area of the Oto River. There used to be a lot of "water mill spinning" using the river water of the Oto River, but the factories we have around the Oto River now produce mostly car parts and textiles, which are not really related to river water usage. But, it was interesting to know that factories around the Yahagi River are still closely related with the river water.

I was surprised to see the data of a student from Mikawa, which increased in volume in such a short period of time.

v) Students who utilized video and books revealed:

We prepared for viewing the video message made by the students while their research activity, students who watched that videos mentioned as followes.

The video one student took showed well how the river in Ryugu area flows and it was very interesting and easy to understand. As I had seen that presentation on a personal computer before, I could easily see how they conducted their research.

The video in which an old man tells us about water mill spinning was easy to understand. Watching the video, we could understand what the man drew.

After the open observation day, students continued to use the educational network to exchange and send information over and over, and

they again realized the circumstances and the actual conditions of the Oto River.

(8) January "What we can do about the Oto River"

We discussed what we can do about the Oto River and came up with the following conclusions:

i) In daily life--- take rubbish back home, try to drain water as clean as possible, use recycled paper, use biodegradable detergent, do not drain chemicals.
ii) At school--hatch and release fish, make riverside green (e.g., plant flowers), feed birds for settling, stop cutting grass and spend more time on collecting plastic rubbish.
iii) The wishes of a few students were: "I want to see fireflies and swim in the river like people used to do." "I want a park and walkway close to the river where we can see and catch fish." "I think people would take more care of the river if we could walk and play near the river."

E. Outcomes and Problems

(1) Direct experiences and field survey in Period of Integrated Study

In this research, we held a clean-up activity at the Oto River, which led to free research activity. In the free research activity, students did field surveys over and over again and they did all the research themselves, such as research on water quality. They actually collected insects and fish, and also obtained materials from the factories and tumulus themselves.

Those field surveys increased their interests in environmental problems and their hometown, and made it possible to continue divergent inquiry for a long period of time. As we see from the opinions students wrote, they had a chance to consider and find some ideas on how they should execute their river cleaning activities. Followings are some examples of students' opinions on "What we can do about the Oto River":

"In our cleaning activity, we should stop cutting grass and spend more time on collecting rubbish. From the environmental viewpoint, we do not need any rubbish, and we do not have to cut grass. If we think of insects and fish, it is necessary to have grass around." For this opinion a student who researched fish and birds said, "I agree." Another student, however, disagreed by saying, "We understand what you want to say, but I think it is necessary to cut grass and keep the riverside area neat and clean, so that people can come closer to the river and take a good look at it, which should lead them to think about protecting it."

Remaining issues from these activities included how to share the students' individual direct experiences within the entire class. It is necessary to have a good use of media for this issue.

(2) Utilizing various media

This time we enabled students to utilize all sorts of database collectively in one classroom. Therefore, they could get a great deal of information such as visual information by VOD, accurate information from the Educational Research Center, information from Yahagi Junior High School students. All these could effectively meet students' expectations.

This activity enabled students to collect not only single-source information from books or via computers, but also from various other sources. And this gave students a good opportunity to learn various methods of research and how to collect information. The information which students collected was very familiar and easy to use. On the other hand, some of the information was inaccurate. In comparison, the information from the Educational Research Center was a little difficult for them to understand, but it was accurate and it gave students a chance to know about the reliability of information.

A student who measured the quality of water in the Oto River conveyed, "It was difficult to compare the results, because the ways of research at Mikawa and Yahagi Junior High Schools differed from each other. Although the information and data from the Educational Research Center were difficult

to read, it was easy to compare their information with ours."

The computer network system was connected to Yahagi Junior High School and the students could experience being in contact with the students there through computer to exchange data and information. This gave the students chances to exchange and collect more information. Furthermore, this led students to change their study from the one with facing just computers to the one communicating with people through computers. They always had to think of people on the other side of computers while they input information, which made them conscious of the quality of information (Fig. 4). They always put their names on the screens they created, and made corrections and additions even after they had already finish creating them (cf. opinion of a student in the previous page).

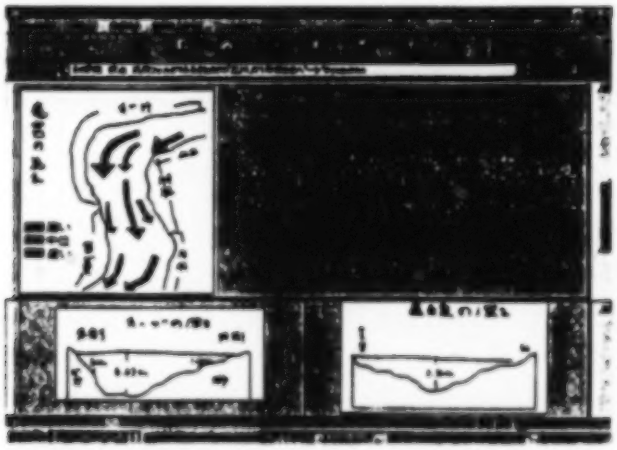


Figure 4. Sample Screen of a student's conclusion

Furthermore, utilizing various media enabled students to grasp much information on rivers, which helped them to understand the circumstances of the Oto River and consider more seriously about its environment.

Some students who utilized various databases wrote: "The Oto River is unexpectedly clean and holds many living creatures, in comparison with other rivers in Japan." "We should keep the Oto River clean as it provides

drinking water to Okazaki City and is used for various kinds of industry." "The Oto River joins to the Yahagi River, which is necessary for people's lives and industries in the western part of Mikawa region, so we have to keep it clean. We can keep the Yahagi River clean by keeping the Oto River clean." "Both the Oto and Yahagi Rivers are seemed to be clean and have even become even cleaner. However, based upon the old man's talk of the conditions years ago, I thought the rivers should be cleaner."

5. Conclusion

In this research, we focused on developing students' abilities to live in an advanced information network society, handling media and finding solutions for their problems, by effectively utilizing media such as computer networks. The following three points especially enabled the students to develop their ability to find solutions for their problems and to engage in divergent learning:

(a) Consideration of direct experiences as important and construction of databases utilizing the experiences.
(b) The ability to utilize the various databases collectively through a network, resulting in a plentiful supply of information.
(c) Joint study with students from distant places utilizing a network, realizing that there are people on the other side of computers.

We would like to continue innovative practices by discussing how we should devise plans for study, how and what kind of information we should provide to meet students' needs, and how to overcome problems existing with current hardware.

Multimedia and Lifelong Learning: See, Listen, Create, and Transmit Information

——————Ueda City Multimedia Information Center, Nagano Prefecture

1. Introduction

The twentieth century was the time when machine civilization made rapid progress, and it is said that the twenty-first century will be the time "information" plays the leading part. It can also be said that "multimedia" is what plays an important part as a means of processing, saving, and transmitting information.

You may be sure that "multimedia" will bring innovative changes to civic life and industries. Therefore, it is necessary to have careful discussions based on history and culture which are the foundations of society when we build a multimedia society, because what is brought by "multimedia", so-called "contents", is evidently culture and it is easy to imagine that this culture will support the development of new history.

Although the expression of "multimedia" has been publicized rapidly in these years, its concept is still fluid. Here is one definition as an introduction:

"A function that enables you to save, search and process information and to experience with a presence of stereoscopic-effected pictures and sound of imaginary reality, which has transcended time and space, by compound use of computer and its communication networks and mutual conversations with users, in regard to the stories using pictures and sound (including music)"——From: E. Kaneko, JASAG Newsletter, 95.02, 7(2).

The above description defines "multimedia" comprehensively, which still continues to change from a long-term point of view, though it can be said to be precise. Considering this definition, we can say that "multimedia" is worth setting in high regard as a developing means of audiovisual education. From the technical point of view, "multimedia" can be defined as "unified management of information by computer (digitalization)", and computers play the leading role in hardware. With such a background, the educational system is now under the pressure of large reforms for the twenty-first century.

2. Advent of the New Age of Multimedia and "Lifelong Learning"

The theme of the Second National Revived Synthetic Conference on Audio-visual Education, held in Tokyo on the 27th and 28th of August, 1998 was "Let us think how audiovisual education should be for the lifelong learning society that is rich in heart and full of vitality".

Until now we divided education for people from children to the aged into home, education, school education, and social education. But, recently, lifelong learning concept (lifelong education) has been established as the foundation. School education that is apt to stay away from society, should become more closely related to society. This concept will be more important in the transitional period of time from the twentieth century characterized as a rapid development of machine civilization to the twenty-first century with an advent of highly informationalized society. Diversified life-style and culture, together with a rapidly increased and diversified "what to learn," will enhance the importance of lifelong learning, which would result the possibility to have a "richer life."

"Audiovisual education" has already been playing a leading part in lifelong learning, and the arrival of "multimedia" has brought "audiovisual education" broader extent and better quality. Furthermore, the development of computers has enabled ordinary people to participate in producing visuals and

audio materials, which used to be just given to them as audiovisual teaching materials. They can now become active senders of audiovisual information. Learners not only "watch and/or listen in" it, but also "create and transmit", which establishes their independence.

3. Background, Summary and Roles of Ueda City Multimedia Information Center (Nickname : Medialand UEDA)

A. Background of establishment

Ueda City Multimedia Information Center was established under the policy of the Ministry of International Trade and Industry to promote preparation of the citizens for a multimedia society, together with the development of multimedia industry in a local area, having a view for the twenty-first century as stated before. The fact that the Ministry of International Trade and Industry selected not only industry, but also education and enlightenment of multimedia in public society suggests that multimedia should also be involved in fields other than industry. Educational problems should also be discussed from a wider point of view, getting out of the former "school education" image.

In such a multimedia advanced country as the United States of America, they are seriously considering being in a highly informationalized society, having multimedia as a mainstay in the twenty-first century. They have announced a concrete policy to promote teaching all children how to use the Internet, which is an important means of multimedia, by the time they become 12 years old. Since diffusion of computers in Japan is now low in comparison with that of the U.S.A., we should consider this fact seriously.

Historically, media had a rapid development in the second half of this century. In Japan, we had various media developed, and especially the rapid spread of television brought a great change to our society. In the later years of the 1970's when the spread of color television was about to settle down, groping for "newer media," which would lead the following generation, began.

But, the movement has been stagnant as the proper equipment for the terminal of information network could not be established.

The Internet is very important as the main network in the multimedia era, but it was only for very limited specialists until six to seven years ago in Japan. At first, the Internet was developed as a network for dispersing information throughout the air defense system of the Department of Defense in 1969 in the U.S.A. and then it was made available to the technical research community. Then in the 1990's, it exploded into the business field and to ordinary people, especially in the U.S.A., In this stream, there already was an opening for the multimedia period. That was brought by computer (personal computers) which was rapidly developed in the 1990's, with the background of "digitalization" of information.

In the U.S.A., it was placed as the gateway of the twenty-first century's highly informationalized society. In Japan, however, we overlooked the fact that introduction of personal computers would bring an enormous change in ordinary citizens, although the personal computers had been introduced into industry earlier. In the U.S.A. the concept of "multimedia" was formed by synthesizing the methods of forming a personal-computer-based network, and processing, saving and searching information. And they have begun to build an information infrastructure for a highly informationalized society in the twenty-first century.

It was the Ministry of International Trade and Industry that reacted promptly in Japan. As a concrete policy, a plan for establishing six "Multimedia information centers" was drawn up. "Ueda City Multimedia Information Center" is one of them.

B. Summary of the Center

(1) Owner : Ueda City
(2) Location : 812-1, Shimonogo, Ueda City, Nagano
(3) Administrator : Ueda City Area Promotion Foundation

(4) Staff : 10 (3 Ueda City Employee, 7 Foundation Staff)

Manager : Shoichi Hojo

(5) Size : Size of the Site: 16,129m2

Gross Area of the Buildings : 1,999m2

(6) Aims : Promoting informationalization in the local community and in the area of industrial encouragement, from the new point of view of utilizing multimedia

(a) Promoting informationalization that is close to the local community

(b) Encouraging and supporting local industry

(c) Staff education, diffusion, and campaign for multimedia

(d) Offering places for communication

(7) Facilities :

(a) Multimedia Gallery: A place to experience, learn, and understand multimedia while enjoying various multimedia equipment (permanent and special exhibition)

(b) Multimedia Hall (Digital 250-inch screen, seating capacity of 208): A place to show movies, such as "The Secret of Sarutobi-kun", an original film by Ueda City

(c) Multimedia Library: A place to experience multimedia software such as various CD-ROMs.

(d) Digital Factory: A studio for producing multimedia software for local companies

(e) Seminar Rooms: Facility for seminars and training sessions using computers

(8) Expenses :

Construction cost: 1,395,000,000 Yen

(Item) Main building: 810,000,000 Yen, System: 585,000,000 Yen,

Lot: 440,000,000 Yen

Total: 1,835,000,000 Yen

(9) Financial resources :

(a) National Treasury : 700,000,000 Yen

(b) Support from Prefecture : 200,000,000 Yen

(c) Local bond : 546,000,000 Yen

(d) General account budget : 389,000,000 Yen

(10) Opened : August 5th, 1995

(11) Number of visitors : 107,000 as of Augst 31, 1998 (3 years from the opening)

Target	Roles	Concrete means
【general citizens】 Education and Enlightenment Multimedia Gallery Library Seminar Room Multimedia Hall	· introduce various possibilities to citizens and let them experience (by animated cartoons, games and CG)	· understand Multimedia · CG Experience of producing multimedia
	· using network, introduce conditions, culture and history of the local area, receive information of other areas	· information exchange using Internet
	· realize the coming of the multimedia society	· realize the future society by seminars and symposium
【industry】 Encourage local information industry and use of the facility Digital factory Multimedia Hall Seminar Room	· nurture talent	· learn techniques and actualize local accumulation based on seminars
	· learn high level techniques accumulate	· produce CD-ROMs, Webpage ordered by Ueda City and the center
	· produce value added software	· form network with the center
	· accumulate local information industry	
	· encourage venture business	· create new business based on multimedia
【forming a new city of 21st century】	· introduce multimedia techniques to citizens and industry	· connect with CATV and · connect with the field of education
	· form "new visual culture city" with multimedia	· create new visual culture under the concept of cartoons as mainstay "Manga" by the late Mr.Shotaro Ishinomori · build "visual museum" · found visual education facility

Table 1. Roles of Ueda City Multimedia Information Center

4. Management Status of "Medialand UEDA"

This center was established with two purposes as stated before: one is top romote local multimedia industry and the other is to encourage experiences of citizens with multimedia society. We invited the public to join in naming this center to personalize the facility, and it was named "Medialand UEDA". Now we are to tell you about the management status of "Medialand UEDA"

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from the point of "lifelong learning".

A. Multimedia Gallery

The Multimedia Gallery is a fundamental facility for promotion of multimedia to the general citizens. Generally people are apt to start coming into contact with multimedia from using personal computers. Ordinary citizens consider multimedia - personal computer - as "a tool to develop and amplify abilities." They also think it as a useful means for enriching their lives in the twenty-first century, when lifestyle and culture will be diversified and there will be much more to be learned. This is certainly what we propose for lifelong learning. Lifelong learning should be pursued independently and pleasantly in our daily life.

Therefore, the gallery has been designed for all generations, from children to the aged, to be able to participate easily without feeling reluctant to use personal computers. We have accepted the notion of so-called "Edutainment." Visual software such as animated cartoons and computer games that Japan is known for are incorporated, so that people can learn multimedia while they are having fun.

We are thankful to have had very good advice from Mr. Shotaro Ishinomori, who passed away at the age of 60 this January. Before his passing he pressed upon us that animated cartoons will spread out as a visual expression in the multimedia area. We celebrated our third anniversary this August, and in these three years we had more than 100,000 visitors, and 80% of them were general citizens. This result is due to the concept of Mr. Ishinomori. He was the honorary director of Medialand UEDA and we still consider him to be so. He designed "SARUTOBi-kun", a mascot in the model of "Sarutobi Sasuke" who is one of the ten warriors of Sanada. "SARUTOBi-kun" is busy entertaining citizens every day on the computer screen even after Mr. Ishinomori's passing.

This center is located in the suburbs of Ueda City in beautiful natural

surroundings. Since transportation services are inconvenient, many of the visitors come by car. This has brought an unexpected effect. This gallery has become popular among children, and they ask their mothers, fathers, and grandparents to come with them. We often see a family sharing one computer and enjoying themselves together. This is exactly what we have been aiming at. We wish to establish a place where all generations can gather for their lifelong learning with multimedia. For that purpose, it is necessary to strive more in various ways.

B. The Seminar Room

The Multimedia Gallery is the heart of this facility, but it by itself affords citizens only a fixed, passive experience. As there are many repeaters, we must take the "create and express information" style to improve multimedia learning, which is the essence of multimedia. The facility for this purpose is the Seminar Room.

In this room, there are 20 computers with excellent visual processing functions. Software by advanced level production is installed for ordinary citizens. You may wonder whether people who are not experienced in using computers can write their own programs. But "multimedia computers" make it possible. Computers of years ago were machines for experienced people to do high level work at research institutes of industry and universities. As personal computers are easy to operate at an advanced level and the prices have rapidly fallen these days, establishment of a multimedia society has become possible. Personal computers will be improved more and it is sure to be one of the important electrical home appliances, similar to the television. Even now in the industry, they have started to refer to multimedia related equipment as "information home appliances."

However, it is impossible for people who have never experienced using computers to easily produce right away. So, we have volunteer instructors who are in the stage of their training as multimedia creators. We would like general people to learn from their experiences, not only how to use computers more

efficiently, nor only to master techniques to get a better job, but also how to enrich their lives by interacting with computers. They learn how to master basic operation while having fun with the help from young instructors.

Our seminars have the purpose to give our citizens an idea of what multimedia is for from the viewpoint of lifelong learning. To explain more about this, the seminars that we hold are summarized in Table 2.

This center is open on weekends and national holidays, and basically closed on Wednesdays (can be changed according to calendar). We were open

	Name of project	Target	Contents
1	Internet experience	all ages	Beginners course of Internet(Hall)
2	Internet exercise	Adult, elementary, junior high students	Exercise course of Internet(Seminar Room)
3	Making Web-pages	Adult, elementary, junior high students	Beginners, advanced courses(Seminar Room)
4	Introduction of multimedia for ladies	Ladies(age of 30~65)	General lecture and exercise of multimedia (3) (Seminar Room)
5	Multimedia for	2~3 years old mothers and kids children and mothers	Drawing lessons(Seminar Room)
6	Medialand KID's summer school	Elementary, junior high students	Web-page production camp(2 nights 3 days, Seminar Room)
7	X'mas graphic contest by children	Elementary, junior high students	visual production of free theme(Seminar Room)
8	Multimedia course elderly class	over age of 60	making New Year's cards(Seminar Room) (many couples)
9	Setsubun Mask-making	Parent and child	many fathers
10	Ueda Animated cartoon College.	4th grade of elementary to junior high school students	Under the guidance of first-class cartoonists, with the concept of "Manga-multimedia" by the late Mr. Ishinomori, this is the third year, try to educate talent from the long-term point of view
11	Autumn session	Middle aged for middle aged	4 half days course, from introduction of PC to drawing illustrations, making original name cards with personal photo (popular course, 4 times a year)
12	Requested seminars for schools and community centers	mainly elementary and junior high schools	Internet visual production, PC club at school, Special education classes, groups of students and teachers keen to learn computer education

Table 2. List of projects by this center

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890 days these last three years, and held 228 seminars and events (303 days, 20,000 participants), which means we held one about every three days. As Table 2 shows, participants are from 2-year-old children to those in their 60's, and they were all satisfied with their own work. We are confident that they now know that multimedia is deeply related to their daily life from such experiences.

"Ueda Animated Cartoon College" has been obtaining good results unexpectedly. As stated before, we have the concept of "Manga" with the cooperation of Mr. Shotaro Ishinomori, the late professional cartoonist. We established "Ueda Animated Cartoon College" for students 10 to 15 years old to discover talented youngsters for nurturing in a long-term perspective. In the beginning, Mr. Ishinomori was the president of this college, but now Ms. Machiko Satonaka serves that role. Twenty participants are selected for each seminar based on their cartoon works, which they submit for judgment.

The course is three days long. It is not necessary to know beforehand how to operate a computer, because they spend time to learn the basic operation on the first day. On the second day, they learn about cartoon pictures from first-class cartoonists, such as Ms. Satonaka and Mr. Monkey Punch. On the final day, they upload the cartoon pictures into computers that they drew on the previous day. And, with the instructors' help, they create multimedia visuals with sound and movement.

The works are surprisingly good, especially compared with what they created before the course. Mr. Monkey Punch speaks very highly of their works saying, "They have obtained the world of "Manga" which Mr. Ishinomori introduced to us faster than the professional cartoonists could." Today's multimedia computers can easily bring out one's hidden talent.

The finished products are not motionless pictures, as they have movement with sound effects and music. It is pity that we can not show you their products on paper. Both application works and finished products can be seen on the Web site of this center, so please access through the address below:

URL http://www.umic.ueda.nagano.jp/.

C. Conception of Local Digital Archive

The important theme of lifelong learning is that citizens pay more attention to their local area, learn their local culture, history and industry, and establish their identity. Audiovisual learning exists as an effective means for that end, and movies and videos have up to now been the main source. The arrival of multimedia made it easy to diversify and advance audiovisual expressions. Though it is still difficult for some, it will be possible for all citizens to participate in producing visuals more easily in the future.

As stated before, we have been working on multimedia learning and producing works with citizens' participation in this center. We started to produce visual works for higher level of audiovisual learning, making full use of excellent techniques of multimedia based on lifelong learning. Here we would like to introduce some works produced in these three years:

(1) "Message to the future" (CD-ROM) finished in March, 1997

Collected photographs and documentary films (extracted) related to the area (Ueda City, Nagano Prefecture). Digitalized for the long-term preservation of the information, and edited in a form which is easy for ordinary citizens to understand. CG pictures added.

(2) "Moha5250 Marumado Densha (A Round Window Train)" (CD-ROM) finished in March, 1998

This area was famous for its silk yarn industry. With its economic power, many railroad lines were constructed around 1920. Years later, with the diffusion of cars, railroad has declined and now only one line is left. Collected old films edited to show the changes of circumstances from the industrial and historical points of view.

(3) "Village of Saltpan" (CD-ROM & Internet) finished in June, 1998

"Village of Saltpan" which belongs to Ueda City is located to the south

of Tohsan-do, an old main road within Japan. This is an area where we find calm and old culture unlike the other areas of the Nagano prefecture. Many specialists of local history are living there, and their research has attained a high level of results. Try to visualize the research results using the latest multimedia techniques, for an easier understanding on the part of ordinary citizens. This product was composed of local folk tales as the mainstay to make local information universally known.

5. Conclusion

The important role of this center is to give people chances to know by experience what multimedia is, and allow them to obtain excellent results of lifelong learning more effectively using multimedia as a tool. For three years since its opening, the center has devised many ways of management. Now we are sure that we have obtained desired results to considerable level. Last March, we are happy to say that we received the prize of "Excellent Information Providing Group" by the Ministry of Home Affairs, for our efforts at promoting an information-oriented community through utilizing the Ueda City Multimedia Information Center as the leader.

Multimedia is still evolving every day. We would like to continue our efforts in this local community as an institution devoted to the establishment and evolution of a multimedia society in the twenty-first century.

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